

2013-03-28 McEwen

Jean McEwen:

Yes I have.

Male Speaker:

All right, well then we will proceed.

Jean McEwen:

Okay.

Male Speaker:

So just look at me and just --

Jean McEwen:

Okay.

Male Speaker:

-- like I said, ignore all this stuff. So I always start off -- I start off by asking the absolutely hardest question first --

Jean McEwen:

Okay.

Male Speaker:

-- and that is what is your name and what do you do?

Jean McEwen:

I'm Jean McEwen and I am a program director for the Ethical, Legal, and Social Implications Research Program, also known as the ELSI program at NHGRI.

Male Speaker:

Is it still going to be called the ELSI Program?

Jean McEwen:

Oh, yeah. Yeah, it'll still be called the ELSI program even though we've reorganized, and now it's part of this Division of Genomics and Society, and it's still sort of left to be seen how that division is going to evolve. At the moment the ELSI program is the only thing in the division, but we're hopeful that over time there will be an expanded set of activities.

Male Speaker:

That's very interesting. So because you got your name right we will be able to proceed with the rest of the interview.

[laughter]

Jean McEwen:  
Okay.

Male Speaker:  
[laughs] I just want to assure you that that's sort of the level that we're at.

Jean McEwen:  
Okay, okay, [laughs] I can probably do this.

Male Speaker:  
Yes, I think -- I'm pretty sure you can. So, again, sort of at a high level, what is the mission of the ELSI program and the kind of research that it's trying to do?

Jean McEwen:  
Well, the ELSI program was set up at the beginning of the Human Genome Project with the idea of providing a certain -- start over.

Male Speaker:  
That's fine. No, you started perfectly right.

Jean McEwen:  
Yeah. Yeah.

Male Speaker:  
That was great.

Jean McEwen:  
Yeah. The ELSI program was established at the beginning of the Human Genome Project to basically anticipate and address the ethical, legal, and social issues that would be coming up as a result of the genetic research to try to anticipate them before they actually arose so that we can come up with policy options to address them.

Male Speaker:  
But why was there -- was there anything different about genetics in terms of the kind of research, as opposed to radiology or cell biology?

Jean McEwen:  
Well, in many ways genetic research is no different from any other kind of research or certainly any other kind of biomedical research, but in some ways actually it is unique. Some of the things that make it unique are the fact that genetics inherently relates not only to me, but to my family members, my relatives, people who are related to me genetically in my larger ethnic group ultimately to the entire population. So it raises a lot of issues about sort of how we identify ourselves individually and in relationship to other people. And there are other things about genetics that are unique, as well. The fact that genetic information is inherently predictive so that our DNA tells us some things about what may happen to us in the future, and that raises all sorts of issues about sort of how people understand and interpret and use this kind of information

and how it will be used by other people who might gain access to it. There have been a lot of concerns over the years about uses of insurance or genetic -- there have been a lot of concerns over the years about uses of genetic information by insurance companies and employers and schools and in the criminal justice system and other kinds of applications. Some of those have been addressed already with certain legislations, such as the Genetic Information Nondiscrimination Act, or GINA, which was passed I think back in 2008, that prohibits the use of genetic information by at least some kinds of insurance decisions and in employment, but there are still a lot of areas in which we still don't really have legislation to address these kinds of issues.

Male Speaker:

And is the research that the ELSI programs supports intended to inform the policy decisions or inform Congress about legislative directions they might consider?

Jean McEwen:

Yes, I think the ELSI program -- let me start over. A lot of the research that the ELSI program supports is really geared toward providing sort of an evidence base on which we can develop really good policy options to address these kinds of issues. Both policy options for the research community in terms of how the research is conducted, policy options for the clinical community in terms of how the information is used in the clinic, and also broader social policy, the ways the genetic information can and will be used in various other parts of society.

Male Speaker:

Cool, and is there really any difference between sort of ELSI research and traditional biomedical ethics research? I'm just trying to parse that for myself.

Jean McEwen:

ELSI research is really a subset of bioethics research more broadly. The term ELSI actually really technically only refers to the name of our little research program at the Human Genome Institute, but it's actually over time come to be associated more broadly with sort of attempts to look at these issues as they arise in genetics and gradually in other areas of science, as well. So the term ELSI has really become almost ubiquitous in the field of bioethics.

Male Speaker:

So sort of like Kleenex.

Jean McEwen:

Sort of like Kleenex.

[laughter]

Male Speaker:

So, have other ICs -- institutes or centers -- here at NIH sort of taken up that cause and emulated what we're doing or what the Genome Institute is doing and brought it into their own fold?

Jean McEwen:

A number of other NIH institutes do sometimes co-fund our research with us because they also recognize that these issues are increasingly coming up in their own studies related to particular diseases and how genetics is a part of those diseases. But no other institute at NIH has yet established its own ELSI program, something that we would like to see happen, because it's -- the issues are so huge and growing that we're not able to really do all of it alone, and so eventually we expect and would hope that other institutes would sort of take up the ELSI mantle and establish their own dedicated research programs for this kind of research.

Male Speaker:

How long has the program existed?

Jean McEwen:

The ELSI program was established in 1990 at the very beginning of the Human Genome Project, so it's been around now for almost 25 years.

Male Speaker:

And its announcement was a bit of a shock. Tell us about that.

Jean McEwen:

Well, the ELSI program was initially almost set up as almost an afterthought. Jim Watson, who was the original head of the Human Genome Project, sort of mentioned in a very offhand way during a press conference that was held during the planning stage for the Genome Project that we really needed to spend some real money to focus a little bit on ethics. And having said that, it gradually sort of made its way into the legislation that established the human genome -- having said that -- let me start over with that part. So, after the press conference, when the legislation was passed that actually established what later became the Human Genome -- National Human Genome Research Institute, there was money set aside which now has become a 5-percent set-aside for the ELSI budget. I have to say that again. That was --

Male Speaker:

Take a drink. Just --

Jean McEwen:

Yeah, that was like --

Male Speaker:

-- pause for a second.

Jean McEwen:

Yeah.

Male Speaker:

You're -- I can see you second-guessing yourself as you're speaking.

Jean McEwen:

Okay, yeah.

Male Speaker:  
It's quite all right, it's --

Jean McEwen:  
Yeah --

Male Speaker:  
-- okay. Just -- it's --

Jean McEwen:  
It's like --

Male Speaker:  
-- no problem.

Jean McEwen:  
Anytime you mention -- I have to mention Jim Watson I have to be careful what I say --

[laughter]

-- and I think that makes me nervous.

Male Speaker:  
He just came up in conversation the other day, yesterday, down at the Smithsonian of all places. So we're meeting new people from life sciences and he had just been out in San Diego, and I'm sure you saw the clips from San Diego.

Jean McEwen:  
Recently? No.

Male Speaker:  
Yeah. This --

Jean McEwen:  
Oh, what did he say this time?

Male Speaker:  
Well, he said the Irish men weren't so much as drunks, they were just stupid.

Jean McEwen:  
Oh, God...

[laughter]

God, it's just -- it's incredible, of all people, that he established the ELSI program.

Male Speaker:  
It's prefrontal release, I'm pretty sure.

Jean McEwen:  
Yeah

Male Speaker:  
It's a form of dementia coming on --

Jean McEwen:  
Yeah

Male Speaker:  
-- where there's just no filter anymore.

Jean McEwen:  
Yeah. Okay put that on tape.

Male Speaker:  
Yeah.

[laughter]

Male Speaker:  
Oh, God, yes. Well, at least I'm not on -- anyway, so, I was asking -- so you had said the ELSI program was launched sort of as a -- not quite an afterthought, as -- and Cook-Deegan told me that there had been people talking about this before Watson sort of threw it out there, but he really did just kind of throw it out there. So tell me that. Watson throws it out there and what happens?

Jean McEwen:  
People started talking about the fact that there were going to be a lot of ethical issues that were going to be raised by genetic research even before the Human Genome Project began. So at the beginning of the project, based on really kind of an offhand comment that was made by Jim Watson, who was then leading the Genome Project, a decision was made to allocate a certain percentage of the extramural research program funds at the Genome Institute to support research on these ethical, legal, and social issues, and that's really how the ELSI program began. And so basically almost from the beginning 5 percent of the extramural research budget at the Genome Institute has been set aside for the ELSI program to conduct this kind of research.

Male Speaker:  
It is really interesting. Do you guys have -- I'm sure you've probably tracked this, but I don't know if know it off the top of your head, but do you have the sense of how much money we have invested over the almost 25 years that ELSI's been around?

Jean McEwen:

Joy will have the answer to that question. I --

Male Speaker:

Okay.

Jean McEwen:

Yeah. I --

Male Speaker:

That's fine.

Jean McEwen:

Yeah, I don't -- I should know it because I just wrote that down like three days ago. I don't remember the number --

Male Speaker:

[laughs]

Jean McEwen:

-- but she can give you that.

Male Speaker:

That's fine, that's fine, that's fine.

Jean McEwen:

Yeah.

Male Speaker:

So, one of my perceptions has been that you guys -- particularly you, your deep involvement in HAPMAP and 1000 Genomes -- that you guys have kind of served as consultant to the other parts of the extramural program in doing the -- setting up the real -- not the real research, the technical research projects part of it. Can you tell me -- can you just give me a sense of how you guys have acted as a consultant to help keep this stuff on the sort of straight and narrow, as it were?

Jean McEwen:

Right. Supporting research is really just a part of what we do in the ELSI program. The other big part of what we do is that we really serve as sort of ELSI consultants to the other people in the extramural division at the Genome Institute, advising them on a lot of the big community resource genomics projects that are underway. Some examples would be the international HAPMAP project, the 1000 Genomes Project, some of the Common Fund projects that NHGRI is heavily involved in, like the Human Microbiome Project, GTEx, any number -- , the Cancer Genome Atlas Project. So, for all those projects we try to come in and sort of provide general advice and guidance on things like informed consent data release policies, privacy issues, all sorts of ELSI issues that come up in the course of conducting this kind of research. And

sometimes we convene outside ELSI groups to help to provide outside advice on these kinds of things, too, so that it's not just staff input.

Male Speaker:

That's very interesting. And do you -- I mean, do you end up getting involved in creating the consent forms and that kind of stuff so that -- so the real, on-the-ground, practical stuff? Or is it mostly just consultation, "You should do this, you should do that"?

Jean McEwen:

It's mostly consultation. We try not to get too involved in the details of drafting consent forms. That really is not a part of our job, but more the big-picture issues in these projects.

Male Speaker:

All right, and now I'm going to ask an obnoxious question that just occurred to me while you were talking about that. So there has been this term I have heard, that it's been said that you guys are the ELSI police, you're the research speed bump. So what are -- who are the ELSI police and do you have cool badges and uniforms?

Jean McEwen:

[laughs] In the old days there was a lot of talk about those ELSI police, those sort of fear mongers that are trying to shut down the science or at least slow it down and raising all these kinds of issues and constantly sort of carping about privacy and all sorts of things. That's really changed over the years. You still hear that occasionally, but we're hearing it less and less. And I think that part of the reason is that -- is the issues have gotten more complicated, and as more and more of the researchers that we fund have really become experts not just in the ethics, but in the science, as well, I think there's been kind of a growing respect for the people who do this kind of research and who are engaged in these kinds of issues. And simultaneously I think there's been more respect shown by the ELSI researchers to people in the genomics community, sort of a mutual better appreciation for what the other do, and I think that gradually genomics researchers are beginning to realize that they actually really need the advice and the help of other people who actually understand the ethical, legal, and social issues. And so these comments that you used to hear about the ELSI police are much less frequently heard today than they were 20 year ago.

Male Speaker:

That's very interesting, and before I came to Genome, I had worked for David Kessler over at FDA on tobacco issues. But one of the things I came to appreciate in my time at FDA was they're a scientific regulatory body, and the pharmaceutical industry complains all the time about everything they do, but they -- but at the same time, the pharmaceutical industry is grateful for the cover that FDA provides them, so that when something goes wrong, they go, "Well, they said it was okay."

Jean McEwen:

Right.

Male Speaker:



I mean, does -- is there sort of an equivalent thing that has happened, especially as things like the HeLa cell -- this recent HeLa cell controversy comes up, where the research community goes "Well, we worked with our ELSI consultants and they said that what we're doing here is okay, so we think we didn't do anything wrong"?

Jean McEwen:

That's always one of the big issues that we worry about, is that we want to make sure that there's real independence in the people that we fund to look at the ethical issues in terms of the advice that they give -- I -- this is complicated. I'm going to have to probably say this a few times.

Male Speaker:

So, do the ELSI police give the researchers cover is essentially what I'm asking. Political cover, sort of ethical cover.

Jean McEwen:

I guess the problem that I have with this is that I don't like your question.

[laughter]

Male Speaker:

Well that's okay.

Jean McEwen:

Yeah, so -- I mean, because we have to be really careful with something like this, because --

Male Speaker:

Well -- and --

Jean McEwen:

Yeah.

Male Speaker:

-- maybe help me understand what the issue or what the delicacy is.

Jean McEwen:

The delicacy is that I think ELSI researchers are really sensitive about the notion that they're going to be used in that way. Do you know what I mean? There's always this worry about maintaining their independence. That's why a lot of them are actually reluctant to get involved too often when we try to get them involved in providing advice to us on things, because there is a little bit of a concern that they're going to be sort of, in a sense, used.

Male Speaker:

Well, are they --

Jean McEwen:

Sometimes the advice isn't taken, and then it's like, "Well, oh, yeah, but we consulted with them. We had a group".

Male Speaker:

So is the concern that their credibility will be diminished?

Jean McEwen:

Yeah.

Male Speaker:

And that they will be tainted by having worked with the government?

Jean McEwen:

It's a lot of that stuff.

Male Speaker:

Really? That's so interesting.

Jean McEwen:

Yeah, yeah, so I would stay away from this on the tape.

Male Speaker:

I think I'll redo it. No.

Jean McEwen:

[laughs] Yeah. No, I mean, I'm not -- I'm just saying it's -- yeah, I think it could get real -- this is not what you want to feature.

Male Speaker:

No, no. I -- I'm really --

Jean McEwen:

I'm happy to talk to you about it.

Male Speaker:

No, no, that's cool, and so this is not -- this interview is really for these pieces for the symposium and for Genome TV. But you know, we have a -- we've hired a historian?

Jean McEwen:

Right.

Male Speaker:

So Christopher Donohue [spelled phonetically], very bright young man, he wants to do an oral history project, and I think that --

Jean McEwen:

Oh, yeah.

Male Speaker:

-- kind of stuff would be really --

Jean McEwen:

Absolutely.

Male Speaker:

-- interesting to have captured --

Jean McEwen:

Absolutely.

Male Speaker:

-- because those nuances are important --

Jean McEwen:

Oh, yeah.

Male Speaker:

-- and especially as waypoints for the direction of this field of research.

Jean McEwen:

Yeah, no, and I'm more than happy to talk. I mean, this is -- it's not that it's a secret, it's just not the kind of thing that you want to have on a tape that's playing in the --

Male Speaker:

Right. And 500 people in an auditorium --

Jean McEwen:

Yeah.

Male Speaker:

-- at a celebration for the 10th anniversary --

Jean McEwen:

Yeah, yeah.

Male Speaker:

That's fine. I totally understand.

Jean McEwen:

Yeah.

Male Speaker:

So let me put it in a more -- let me go in a different direction and ask a question where you can shine.

Jean McEwen:  
Okay.

[laughter]

Male Speaker:  
Just -- so just check off for me or tick off for me, like, the top -- what you think are the top three accomplishments of the ELSI program over the last 20 years or however long.

Jean McEwen:  
Okay. Now this is when I'm going to have to play around with.

Male Speaker:  
That's fine.

Jean McEwen:  
We'll have to do a few.

Male Speaker:  
That's fine.

Jean McEwen:  
Let me think.

Male Speaker:  
I mean, and really what I want to do is just -- I just want to say the Human Genome Project gave you the sequence, the ELSI program --

Jean McEwen:  
Right. Right.

Male Speaker:  
Took it away. No.

Jean McEwen:  
Okay. Let me think. Oh, boy. I'm not sure I can state it as a top three.

Male Speaker:  
That's fine. I mean --

Jean McEwen:  
Yeah, yeah.

Male Speaker:

Well what do you think -- I mean, and what do you think -- what has given you the most sort of pleasure or sort of satisfaction of your own work in this area that you've accomplished, that you feel like, "This was cool. I'm glad that I was able to do this"?

Jean McEwen:

I think that the ELSI research that we've funded -- the ELSI research that we've supported has really helped to -- let me start over again. Let me think through what I want to say. Okay.

I think a lot of the ELSI research that we've supported over the years has been useful to the community in the sense that it's really given genetics and genomics researchers a better sense that when they work with samples that came from somebody, somewhere, there's a real person behind that, a real person who gave that sample, and so there's issues associated with how the samples are used and, more importantly, how the information that's generated from looking at the samples is going to be used. So, for example, thinking about things like privacy, it becomes real because it really connects to an actual living, or sometimes dead, human being and their family members. Thinking about how the information will be understood when it's -- you're uncovering information that suggests that there might be a greater frequency of a particular genetic variant that makes a particular group more or less predisposed to a particular disease. Those kinds of things that can sometimes... information that can sometimes be stigmatizing to individuals. Those kinds of issues that I think that a lot of genomics researchers would never have thought of, except for the fact that we have people who are actively researching these things and reminding them constantly that there are actual people behind the samples that they study. I think that's really important.

Male Speaker:

That's --

Jean McEwen:

That wasn't very articulate.

Male Speaker:

And the part about the people behind it and thinking about how the information is used, does that sort of tie back to how the source, the person who gave the sample, actually feels about that? Is that what we're connecting back to?

Jean McEwen:

Genetic information is inherently in some ways different from other kinds of information, because for a lot of people it's seen as being intensely personal, and it's not just a matter of privacy or identifiability. There's been a lot of focus on is my DNA my absolutely identifier and is someone going to be able to tell from my DNA data that it came from me and then they're going to be able to figure out what diseases I'm predisposed to? And that's part of what we're concerned about, but it really goes beyond that. It goes to the fact that people very often are very -- have very personal feelings about their biological samples, blood samples, and more importantly about the information that's in there. Not necessarily just because it can be used to discriminate in some way, but just because it's personal, it's theirs, it's private, it's something

that they feel attached to and that they want to sort of have recognized that it's not just sort of out there for the world to necessarily see and do with whatever they want to. That wasn't very articulate, either, but --

Male Speaker:

No, no, that was good. That's good. That's really -- it's really very interesting. How -- can we draw a line between the ELSI-funded research that's been done and show how it's had an impact either on policy -- well, of course we have GINA, so we can talk about that, but how the ELSI research has informed changes in policy or changes in behavior, like, around the protection of research subjects or discrimination or any of those things. So, what would be an example of that?

Jean McEwen:

Let me think about that, because GINA's actually not a good example because --

Male Speaker:

Really? Why?

Jean McEwen:

Because actually a lot of the research that we funded before GINA was passed actually showed that there wasn't a big problem with the risk of genetic discrimination. It was actually much more a fear of it than an actual thing that was happening. But, still, I think the attention focused on that issue led to the passage of GINA, which I think in the end people feel is a good thing, but it's not as if there was really a lot of research that actually showed that there was a real need for it. So there are probably better examples. I think -- let me just think for a minute.

Male Speaker:

Sure.

Jean McEwen:

Okay. There are a lot of examples about how the research that we've supported through the ELSI program has actually really contributed in a really concrete way to the way research gets done and the results of the research getting used. One example I can think of would be the Genetic Variation Consortium that we set up a number of years ago before the international HAPMAP project was being conducted. We realized from the beginning that there might be issues -- that there were likely to be issues that would come up with that project relating to how that information would be thought of and used, because we were going to be looking at differences not just between individuals, but between people from different geographic and ethnic groups. And so a lot of our ELSI researchers conducted studies that looked at things like how genetic researchers were defining a population. How do they -- how do we determine whether someone is African American? What does that mean to say you're African American or African or Hispanic, when there are a number of particular ethnic or geographic groups that someone could identify with, and yet they're being classified as Hispanic? And what does that really mean? So we funded a lot of researchers to do research to look at these questions about how we would label populations and how we would define group membership. And those -- that research led directly to recommendations about how these populations should be labeled and also

how they should be reported in the press, in media coverage about the project, and about genetic variation research more generally. The recommendations aren't always followed, because they're of course difficult to enforce, but, still, there's been a much greater sensitivity, I would say, over the last 10 years to this issue about how we label people, and that's something that I think wouldn't have happened without a lot of the ELSI research that we supported.

Male Speaker:

That's very interesting. And so we've solved that problem of race then. Thank God.

Jean McEwen:

[laughs]

Male Speaker:

Just made that whole thing go away.

Jean McEwen:

We didn't exactly solve the problem of race with the ELSI research that we conducted in connection with the HAPMAP and the 1000 Genomes Project, but we're certainly working around those issues and in a small way trying to at least make sure that the research that we're doing is done in a responsible way so that it actually doesn't exacerbate the problem of racism or sort of an inaccurate conception of racial and ethnic differences.

Male Speaker:

I mean, it is -- I shouldn't have even joked about, because I've realize how sensitive, how emotional, and how serious a subject it is, and I've always been impressed -- I have to say, I've thought that the approach that you guys have taken to this has been very thoughtful and sensitive around those issues, and I think it's been helpful.

Jean McEwen:

Yeah.

Male Speaker:

Actually, I do think it matters and we still don't really have -- Vince's [spelled phonetically] task has been somewhat over the years to give us a policy position on it. We've never really done that.

Jean McEwen:

Because how can you have a policy position on something so complex, you know?

Male Speaker:

Well, maybe that's it. I mean --

Jean McEwen:

Yeah.

Male Speaker:

And it's been -- but we need -- we just need three talking points. I mean --

Jean McEwen:

Yeah.

Male Speaker:

-- how hard can it be?

Jean McEwen:

Yeah, exactly.

Male Speaker:

No, I'm kidding. What -- and so -- thinking broadly about the portfolio and the work that you guys are doing, what are the big issues today that you're working on and what has been left so far undone that you think is a future challenge that we really need to work out? So big things we're working on today and what's next?

Jean McEwen:

A major issue that we're working on right now is funding people to look at these questions about what we do about this genetic information as we --

Male Speaker:

Start it again.

Jean McEwen:

Yeah.

Male Speaker:

That's fine.

Jean McEwen:

A big issue that we're looking at today is -- in funding people to look at, is what we should do with the genomic information that we generate, particularly whole genome sequence information. Are we just going to be giving people back all this information, including even information that we don't really know what it all means and expecting them to know what to do with it or their doctors to know what to do with it? Some people say we should be returning essentially everything and that people really have a right to know what's in their own genome. And that we're going to generate the information, they have a right to look at it and use it. Other people are concerned that we don't even know what a lot of this information means, so that we need to be careful about giving people information back prematurely that could become confusing or perhaps even psychologically harmful if people become worried about things that they might -- that might be lurking in their genome that will never in fact come to pass. So one of the big things that we're working on now is we're funding a lot of people through what we're calling our Return Of Results Consortium to really look at these question about how we return information to people, whether and when we should be returning it, and then what people are actually doing with it, how they're responding to it. This is a really complicated question that a



lot of very smart people are looking at, and no one has really quite figured it out, yet. I suspect it'll probably take years before we have clear answers, but the research that we're supporting we hope is going to help provide really an evidence base to help us come up with the right policies around this.

Male Speaker:

That's very interesting. And what's the main piece of work that you feel like has been left undone or that we haven't really started but that has to be grappled with at some point? Or maybe we've covered everything.

Jean McEwen:

[laughs]

Male Speaker:

Maybe it's all nailed down and everything's good.

Jean McEwen:

Yeah. No, I know what it is, I'm just trying to figure out how to say it. I think one of the biggest challenges for the future is going to be trying to figure out and to help people understand how to understand and interpret this very, very complicated and inherently sort of indeterminate [sic] -- that's not a word. I have to start over.

Male Speaker:

Indeterminate [laughs].

Jean McEwen:

Indeterminate.

Male Speaker:

No worries. No, that's fine.

Jean McEwen:

I think one of the biggest challenges for the future is going to be figuring out how to communicate to people, really how to understand and interpret genomic information, which really is so complex and so poorly understood, though we're hoping that we understand it better in a few years, but I think a lot of times people tend to not really understand the idea that genomic information is not necessarily as much of a sort of a crystal ball into the future as they might think it is. And I think that helping not just individuals, but also just societal institutions to understand that genomic information is complex and difficult to interpret so that any policies that are made around it are going to need to be made with a lot more thought than I think people often recognize. So I think one of the big challenges for the future will be helping to develop policies that really take into account the sort of uncertain and indeterminate nature of genetic and genomic information so that it doesn't get over-interpreted and used in ways that are actually potentially harmful to people.

Male Speaker:

Very interesting. I think that we've just about covered it, and let me just see -- is there anything here that I missed that I really need? Nope. And I'll ask Joy about the --

Jean McEwen:  
Yeah, the budget.

Male Speaker:  
-- money.

Jean McEwen:  
She'll definitely have that.

Male Speaker:  
All right.

Jean McEwen:  
In fact, I can email her and warn her that she should have the --

Male Speaker:  
I think I just saw her walk in.

Jean McEwen:  
Oh, okay. She probably has it in her head.

Male Speaker:  
Maggie, you can stop tape, please, or recording or -- since we use discs now.

Jean McEwen:  
I feel like there were a number of times where --

[end of transcript]